
GEOLOGY

Division of Mathematics,
Sciences, and Engineering

GEOL 150 (C-ID GEOL 100)

Physical Geology

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement; MATH 030 or MATH 030D or MATH 033 or appropriate placement

Transfers to: UC, CSU

Physical Geology, which fulfills the physical science general education requirement, is an introduction to the principles of geology with emphasis on Earth processes. This course focuses on the internal structure and origin of the Earth and the processes that change and shape it. Earthquakes, Volcanoes, Oil, Beaches, Tsunamis, Rocks, Rivers, Glaciers, Plate Tectonics, Minerals, Continent and Mountain Building are among the many diverse topics that are explored.

3 Units

54 Lecture hours

GEOL 151 (C-ID GEOL 100L)

Physical Geology Laboratory

Prerequisite/Corequisite: GEOL 150
Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement; MATH 030 or MATH 030D or MATH 033 or appropriate placement

Transfers to: UC, CSU

Physical Geology Laboratory engages students with a "hands-on" review of the principles presented in Geology 150 and their application to everyday life. Laboratory exercises will include (but are not limited to) the identification of minerals, igneous, metamorphic and sedimentary rocks, topographic and geologic map exercises demonstrating the work of water, wind, ice and gravity and effects of tectonic activity.

1 Unit

54 Lab hours

GEOL 152 (C-ID GEOL 110)

Historical Geology

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement; MATH 030 or MATH 030D or MATH 033 or appropriate placement

Transfers to: UC, CSU

This course is an introduction to Earth's history and the life it supports. Subjects include geologic dating, global tectonics, stratigraphy, fossils, biological evolution, the planet's origin and the processes that

have influenced paleogeography during the past 4.6 billion years.

3 Units

54 Lecture hours

GEOL 152L (C-ID GEOL 110L)

Historical Geology Lab

Prerequisite/Corequisite: GEOL 152
Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement; MATH 030 or MATH 030D or MATH 033 or appropriate placement

Transfers to: UC, CSU

This course is the laboratory component to an introduction to Earth's history and the life it supports. Subjects include geologic dating, plate tectonics, stratigraphy, fossils, biological evolution, the planet's origin and the processes that have influenced paleogeography during the past 4.6 billion years.

1 Units

54 Lab hours

GEOL 299

Directed Study: Geology

Transfers to: CSU

Independent Study/Directed Study is intended for students who have the ability to assume responsibility for independent work and to prepare written or oral reports and/or appropriate projects. To enroll in an independent study/directed study course, students must possess a 2.5 overall grade point average and a 3.0 grade point average in the discipline of study being requested, or receive an exception from the instructor. Independent Studies/Directed Studies may be developed from any topic arising from or related to a course of study that will result in developing depth and breadth in that subject area. Students will be expected to meet on a regular basis with their faculty sponsor and submit a final report or project, and student progress shall be evaluated at regular intervals.

Academic standards for Independent Studies/Directed Studies shall be the same as those for other courses. Units are awarded in accordance to Title V regulations with one unit of credit awarded for 54 hours of Directed Studies, six (6) hours of which must be with an instructor. The instructor is responsible for monitoring student progress through the semester. Students may take directed study courses for a maximum of three (3) units within a discipline, and may not accumulate more than a total of nine (9) units college wide.

1 to 3 Units

54 to 162 Lab hours

GRAPHIC DESIGN

Division of Arts &
Cultural Programs

GDSN 110

History of Graphic Design

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement
Transfers to: UC, CSU

This course is a survey of historical developments in graphic design from the Industrial Revolution to the Digital Age. Students will analyze the development of graphic design, its origins as a CTE area and the influences of political, social and economic climates of the different historical periods. This course provides a historical framework for analysis of current and future trends in graphic design and explores various historical art and design movements in order to recognize and evaluate the contexts of fine art, design, and science.

3 Units

54 Lecture hours

GDSN 150

Typography

Advisory: READ 022 or appropriate placement; ENGL 030 or ENLA 034 or appropriate placement; NVOC 285
Transfers to: UC, CSU

This course is for the student interested in the history, theory and practice of Typography as it applies to graphic design, advertising and other areas of design and visual communication. Students will learn and practice hand-rendered and mechanical aspects of Typography and how Typography attracts, informs, educates, inspires and creates retaining impressions and modifies human actions and behavior. Through discussions, exercises, and projects, students will develop an understanding leading to the clearer interpretations of Typography and its role in human history, communication, design and art. Activities include the history and principles of typography, letter structure, typeface selection, fundamentals of typesetting and introductory typographic layout.

3 Units

36 Lecture hours

72 Lab hours

GDSN 151

Typographic Design

Prerequisite: GDSN 150

Advisory: READ 022 or appropriate placement; ENGL 030 or ENLA 034, NVOC 285

Transfers to: UC, CSU

This course is for the student interested in the theory and practice of

letterforms and typography as they apply to graphic design, advertising and other areas of design and visual communication. Focus is on the compositional use of type as a principle design element and its relationship to issues of visual hierarchy, readability and page structure. Students continue their exploration of typography as an expressive visual form through typographic design projects.

3 Units

36 Lecture hours

72 Lab hours

GDSN 162

Introduction to Web Design: User Experience Design (UX)

Advisory: READ 022 or appropriate placement; ENGL 030 or ENLA 034 or appropriate placement; NVOC 285
Transfers to: UC, CSU

This introductory Web Design class is a practical introduction for students interested in UX (user experience) and visual interface design and the challenges it poses for the Graphic Designer. Using Web Design applications (like Adobe Dreamweaver and Adobe Photoshop), students are introduced to the steps involved in creating a basic functional interactive website. Topics include aesthetic design considerations, front-end technology, interaction, UX, UI and CSS design, file optimization, and website principles and practices. For the student interested in a degree in Graphic Design or those interested in web design and interactive design.

3 Units

36 Lecture hours

72 Lab hours

GDSN 163

Intermediate Web Design: Interactive Design

Prerequisite: GDSN 162
Advisory: READ 022 or appropriate placement; ENGL 030 or ENLA 034 or appropriate placement; NVOC 285
Transfers to: UC, CSU

Focusing on usability, this intermediate class offers broader and more advanced instruction into the 'front-end' visual design and aesthetics of interactive media as well as the technical and design requirements of designing a fully functional website. Using intermediate web design applications, like Adobe Dreamweaver, students are instructed in the techniques needed in increasing the quality of user experience (UX). Students continue to perfect the creation of a fully functional website using multifaceted applications. Topics include interactive design software, front-end aesthetics, technology, interaction, UX, UI and CSS design, the principles and elements of digital design and aesthetics, and interactive design business practices. This

course is for the student interested in a degree or certificate in Graphic Design or those interested in expanding their knowledge of web design and interactive design.

3 Units

36 Lecture hours

72 Lab hours

GDSN 164

Digital Illustration Design

Advisory: READ 022 or appropriate placement; ENGL 030 or ENLA 034 or appropriate placement; NVOC 285
Transfers to: UC, CSU

This introductory course is an introduction to Graphic Design and uses vector software (Adobe Illustrator) as the principal digital tool. Topics include the Principles and Elements of Design, typography, color, shape stroke, illustration techniques, page layout design, as well as introductory critical concepts and professional practices employed by Graphic Designers. This course includes exercises, projects and portfolio building with an emphasis on professional standards. This course is for the student interested in a degree or certificate in Graphic Design or those interested in expanding their knowledge of web design and interactive design.

3 Units

36 Lecture hours

72 Lab hours

GDSN 165

Branding and Identity Design

Prerequisite: GDSN 164
Advisory: READ 022 or appropriate placement; ENGL 030 or ENLA 034 or appropriate placement; NVOC 285
Transfers to: CSU

This course is an exploration of Branding and Identity Design, a sub-discipline of Graphic Design. Topics include the research and development of Trademarks and Logos for clients, the Principles and Elements of Design, typography, color, shape stroke, illustration techniques, page layout design, as well as intermediate and advanced critical concepts and professional practices employed by Graphic Designers. This course includes portfolio building with an emphasis on professional standards. This course is for the student interested in a degree or certificate in Graphic Design and those interested in 2-dimensional design and layout applications employed as tools by Graphic Designers.

3 Units

36 Lecture hours

72 Lab hours

GDSN 172

Publication Design

Advisory: READ 022 or appropriate placement; ENGL 030 or ENLA 034 or appropriate placement; NVOC 285
Transfers to: CSU

This introductory course is an exploration of Publication Design, a sub-discipline of Graphic Design, and uses page-layout software (Adobe InDesign) as the principal digital tool. Topics include the Principles and Elements of Design, page composition, creative use of typography, color, imagery and the grid, discussion of output and pre-press considerations for print and digital distribution as well as current methods/styles, critical concepts and professional practices employed by Graphic Designers. This course includes portfolio building with an emphasis on professional standards.

3 Units

36 Lecture hours

72 Lab hours

GDSN 174

Packaging Design

Prerequisite: GDSN 164
Advisory: READ 022 or appropriate placement; ENGL 030 or ENLA 034 or appropriate placement; NVOC 285
Transfers to: CSU

This introductory course is for any student interested in Packaging Design. Students will use software applications employed as tools by Graphic Designers for two-dimensional and three-dimensional surfaces. This course is a project-driven exploration of Packaging Design which is defined as stylized functional design for carrying, protecting, or presenting a product. Topics include: the Principles and Elements of Design, current technical and creative methods and styles employed by Package Designers as well as sustainability, advanced critical concepts and professional practices. This course includes portfolio building with an emphasis on professional standards.

3 Units

36 Lecture hours

72 Lab hours

GDSN 178 (C-ID ARTS 250)

Digital Imaging Design

Advisory: READ 043 or appropriate placement; ENGL 035 or ENLA 100 or appropriate placement; NART 285
Transfers to: UC, CSU

This introductory graphic design course uses bitmap software as the principal digital tool. Topics include the principles and elements of design, typography, color, photo/raster/bitmapped-based scanning, vector graphic integration, time-based design, image formats, optimization, re-touching, adjustments, compositing, blending, color, conceptual,

narrative and time-based techniques, technical and creative methods and styles employed by graphic designers as well as well as introductory critical concepts and professional practices. This course includes exercises, projects, and portfolio building with an emphasis on professional standards. This course is for the student interested in obtaining a degree or certificate in graphic design, transfer, and those seeking to pursue a career in graphic design or related professions.

3 Units
36 Lecture hours
72 Lab hours

GDSN 179

Advanced Digital Imaging Design

Prerequisite: GDSN 178

Advisory: READ 022 or appropriate placement; ENGL 030 or ENLA 034 or appropriate placement; NVOC 285
Transfers to: UC, CSU

This course is for the student interested in the theory and practice of letterforms and typography as they apply to graphic design, advertising and other areas of design and visual communication. Focus is on the compositional use of type as a principle design element and its relationship to issues of visual hierarchy, readability and page structure. Students continue their exploration of typography as an expressive visual form through typographic design projects.

3 Units
36 Lecture hours
72 Lab hours

GDSN 290

Cooperative Work Experience/Internship for Graphic Design Related Fields

Advisory: ENGL 030 or ENLA 034 or appropriate placement; READ 022 or appropriate placement
Transfers to: CSU

This course supports and reinforces on-the-job training in business and industrial establishments under supervision of a college instructor and is facilitated by the use of learning objectives. The student will be working in a skilled or professional level assignment in their area of vocational interest and will meet performance objectives related to instruction that are above and beyond the conditions of regular employment. This course is intended for students whose job is related to the field of graphic design and have completed or enrolled in the appropriate coursework. This course may be taken once and repeated for a maximum of 16 units. Contact the CWE office regarding re-enrollment procedures.

Student Unpaid Internship:
1 Unit/60 hours; 2 Units/120 hours;
3 Units/180 hours; 4 Units/240 hours
Student Paid Internship:
1 Unit/75 hours; 2 Units/150 hours;
3 Units/225 hours; 4 Units/300 hours.
1-4 Units
3 Lecture hours
60- 300 Other hours

GDSN 299

Directed Study in Graphic Design

Advisory: READ 043 or appropriate assessment; ENGL 035 or ENLA 100 or appropriate assessment
Transfers to: CSU

The course provides an opportunity for the student to expand their studies in Graphic Design beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of the assignment and the unit value assigned for successful completion. Students must possess a 2.5 overall GPA and a 3.0 GPA in the discipline of study being requested, or receive an exception from the instructor. Students may take a maximum of 3 units of directed study within a discipline and 9 units college wide.

1 to 3 Units
54 to 162 Lab hours

HEALTH SCIENCE

Division of Health Science & Nursing

HS 045

Math for the Health Care Professional

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement; MATH 030 or MATH 030D or MATH 033 or MATH 033B or appropriate placement

This is a basic course that focuses on mathematical computation and application within the health care setting. Topics covered within this course include drug dosages, calculation of intake and output, weights and measures, temperatures, intravenous infusion rates and conversions necessary for safe employment in the healthcare setting. This course is an elective course for students wanting to pursue a career in the healthcare industry.

1 Unit
18 Lecture hours

HS 050

Nurse Assistant Pre-Certification Training Course

Corequisite: HS 050L
Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or

appropriate placement; MATH 020 or MATH 020C or appropriate placement

This course is designed for students who have expressed an interest in an entry level nursing course. This course meets Title 22 regulations for taking care of the geriatric population in a long term care setting, utilizing skills in basic care, emergency care and communication. The Nurse Assistant Pre-Certification training course consists of 72 hours of classroom instruction This course prepares the student to take the California State Certification Exam to become a Certified Nurse Assistant (CNA). After obtaining the state certification, the student may find employment in the acute care and/or long term care settings. The California Department of Health requires that students must be concurrently enrolled in both HS 050 and HS 050L, and pass both courses together. They cannot be taken individually for credit.

4 Units
72 Lecture hours

HS 050L

Nurse Assistant Pre-Certification Training Course Lab

Corequisite: HS 050

This course is designed for students who have expressed an interest in an entry level nursing course. This course meets Title 22 regulations for taking care of the geriatric population in a long term care setting, utilizing skills in basic care, emergency care and communication. The Nurse Assistant Pre-Certification training course lab consist of 135 hours of supervised clinical practice in long term facilities. This course prepares the student to take the California State Certification Exam to become a Certified Nurse Assistant (CNA). After obtaining the state certification, the student may find employment in the acute care and/or long term care settings. The California Department of Health requires that students must be concurrently enrolled in both HS 050 and HS 050L, and pass both courses together. They cannot be taken individually for credit.

2.5 Units
135 Lab hours

HS 051

Certified Nurse Assistant Acute Care Training Course

Prerequisite: HS 050, HS 050L, and California State CNA Certification

Corequisite: HS 051L

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement

This course is designed for students who are Certified Nurse Assistants that wish to learn the basic nursing skills and duties in the acute care hospital setting with additional emphasis

(*Students will receive credit for only one of the following courses: PHIL 128 or PHIL 128H)

This course is for students interested in the relationship between political systems and philosophy. It is especially relevant for students interested in political science, philosophy and law. This course introduces the history and development of political thought, and will consider the justification of the State, Libertarianism, Socialism, Communism, as well as conceptions of rights and distributions of goods. This course is designed for students who meet Honor's Program requirements.

3 Units

54 Lecture hours

PHIL 135

Philosophy and Contemporary Issues

Advisory: ENGL 101; READ 043 or appropriate placement

Transfers to: UC, CSU

This introductory course explores the philosophical aspects of a variety of issues of contemporary interest, with an emphasis on social and legal issues. Topics may include, but are not limited to: war/terrorism, euthanasia, philosophical issues pertaining to race/ethnicity/gender/disability, rights and social justice, and the criminal justice/legal system. This course is intended for all students interested in applying methods of philosophy to contemporary topics, for pathway to law (pre-law) students, and for majors in philosophy or political science.

3 Units

54 Lecture hours

PHIL 140

Philosophy of Religion

Advisory: ENGL 101; READ 043 or appropriate placement

Transfers to: UC, CSU

This introductory level course is intended for all students seeking a thoughtful exploration of religious issues in a non-sectarian context, or as part of a broader program of philosophical study. We will address Western religion from a philosophical perspective, including arguments for and against the existence of God, and an investigation into the status of religious beliefs. Additional topics may include a consideration of the evolution-creationism debate, and a discussion of religious pluralism.

3 Units

54 Lecture hours

PHIL 299

Directed Study: Philosophy

Transfers to: CSU

Independent Study/Directed Study is intended for students who have the ability to assume responsibility for independent work and to

prepare written or oral reports and/or appropriate projects. To enroll in an independent study/directed study course, students must possess a 2.5 overall grade point average and a 3.0 grade point average in the discipline of study being requested, or receive an exception from the instructor. Independent Studies/Directed Studies may be developed from any topic arising from or related to a course of study that will result in developing depth and breadth in that subject area. Students will be expected to meet on a regular basis with their faculty sponsor and submit a final report or project, and student progress shall be evaluated at regular intervals. Academic standards for Independent Studies/Directed Studies shall be the same as those for other courses. Units are awarded in accordance to Title 5 regulations with one unit of credit awarded for 54 hours of Directed Studies, six (6) hours of which must be with an instructor. The instructor is responsible for monitoring student progress through the semester. Students may take directed study courses for a maximum of three (3) units within a discipline, and may not accumulate more than a total of nine (9) units college wide.

1 to 3 Units

54 to 162 Lab hours

PHIL 325

Applied and Professional Ethics

Prerequisite: ENGL 201 or ENGL 201H, and PHIL 101 or PHIL 101H or PHIL 110 or PHIL 110H or PHIL 120

This upper division general education course is designed for students pursuing a Bachelor of Science degree in Automotive Technology but it is also open to all students who have successfully completed the prerequisites. This course is intended for students who seek a greater understanding of the relationship between ethics and human living. This course will expose them to the moral and ethical views in the Western philosophical tradition. Students will then apply these views to various contemporary issues. Expected topics include: business ethics, euthanasia, terrorism, public policy, the death penalty, and issues in science and technology.

3 Units

54 Lecture hours

PHOTOGRAPHY

Division of Arts & Cultural Programs

PHTO 130

Beginning Photography (Formerly PHTO 190)

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement; ART 120

Transfers to: UC, CSU

This course is designed for students who want to study the basic technical and conceptual approaches to contemporary photography. Traditional black-and-white photography techniques are explored, with special emphasis on the basic use of the 35 mm camera and enlarger, as well as the processing of black-and-white film and printing paper. Students are required to provide their own 35 mm camera with manual controls.

3 Units

36 Lecture hours

72 Lab hours

PHTO 185

Introduction to Digital Photography

Advisory: ENGL 030 or ENLA 034 or appropriate placement; READ 043 or appropriate placement

Transfers to: UC, CSU

This course provides an introduction to digital photography as a creative art, emphasizing photography as a means of communication and personal expression. An examination of the theory of aesthetics, cultural significance, historical progression, elements of composition, visual literacy, and technical elements of photography will be conducted.

Students will be introduced to DSLR camera operation and digital imaging techniques. Students are required to supply their own digital camera. Critical evaluation of student work is also a component of this course.

This class is suitable for photography majors and non-majors alike.

3 Units

36 Lecture hours

72 Lab hours

PHTO 191

Intermediate Photography

Prerequisite: PHTO 190

Advisory: READ 043 or appropriate placement

Transfers to: UC, CSU

This course is designed for students who have successfully completed beginning photography and wish to study more advanced technical and conceptual approaches to contemporary black and white photography in a 35mm film based, wet lab environment. Techniques such as the use of studio lighting, light meters, toners, hand coloring, and solarization are explored, with special emphasis given to understanding the conceptual framework for the production and analysis of both personal and commercial photographic imagery. Students are required to provide

their own 35mm camera with manual controls.

3 Units

36 Lecture hours

72 Lab hours

PHTO 230

Medium and Large Format Photography (Formerly PHTO 290)

Prerequisite: PHTO 185, PHTO 190

Advisory: ENGL 035 or ENLA 100,

READ 043 or appropriate placement

Transfers to: CSU

This course is for students who have completed beginning analog and digital photography courses successfully and seek to study more advanced technical and conceptual approaches to photography using medium and large format cameras. The course is designed as a hybrid course that combines analog and digital techniques into one workflow. Special emphasis is given to the understanding and analysis of photographic imagery and portfolio development.

3 Units

36 Lecture hours

72 Lab hours

PHTO 292

Intermediate Digital Photography

Prerequisite: PHTO 185

Advisory: ENGL 035 or ENLA 100 or

appropriate placement; READ 043 or

appropriate placement

Transfers to: CSU

This course is designed for students who have successfully completed PHTO 185 and have a working knowledge of basic camera control and photographic composition. It will cover use of digital cameras, metadata, workflow organization, global and local image editing and manipulation, color theory, and basic lighting techniques using flash and strobe. Emphasis will be placed on using photography as a means of communication and personal expression. Students are required to supply their own DSLR or mirrorless cameras capable of shooting in RAW file format.

3 Units

36 Lecture hours

72 Lab hours

PHTO 299

Directed Study: Photography

Prerequisite: PHTO 130, PHTO 185

Advisory: ENGL 035 or ENLA 100 or

appropriate placement; READ 043 or

appropriate placement

Transfers to: CSU

This course provides an opportunity for photography students to prepare and develop a portfolio project centered on a conceptual, technical, or visual theme. The theme of the portfolio project will be arranged by agreement between the instructor and students, who must submit a pro-

posal to the instructor as part of this agreement. Students are required to contract with the instructor to determine the scope of the assignment and the unit value assigned for successful completion, and the instructor will monitor students' progress regularly throughout the semester. Students must possess a 2.5 overall GPA and a 3.0 GPA in the discipline of study being requested, or receive an exception from the instructor. Students may take directed study courses for a maximum of three (3) units within a discipline, and may not accumulate more than a total of nine (9) units college wide.

1 to 3 Units

54 to 162 Lab hours

PHYSICS

Division of Mathematics, Sciences, and Engineering

PHY 120

Physics for Everyday Use

Prerequisite: MATH 050 or MATH

050D or MATH 053 or appropriate

placement

Advisory: ENGL 035 or ENLA 100 or

appropriate placement; READ 043 or

appropriate placement

Transfers to: UC (credit limit), CSU*

*(*Students will receive no credit for PHY 120 if taken after PHY 150 or PHY 211)*

This course investigates the basic characteristics of matter and the interactions that govern its behavior and emphasizes how remarkable everyday phenomena are. Examples from popular culture (movies, TV, and sports) are emphasized. Topics include how to describe an object's motion, how to explain changes in an object's motion, the roles of work and energy, and other topics. The course is oriented to the non-science major, stresses conceptual understanding, and is intended to present students with an opportunity to see how our world works.

4 Units

54 Lecture hours

54 Lab hours

PHY 150 (C-ID PHYS 100S, PHYS 105)

General Physics - I

Prerequisite: MATH 175 or appropriate

placement

Advisory: ENGL 035 or ENLA 100 or

appropriate placement; READ 043 or

appropriate placement

Transfers to: UC (credit limit), CSU*

*(*Students will receive credit for one*

physics series: PHY 150 and PHY 160 or

PHY 211, PHY 212, and PHY 213)

This course is the first of a two-semester sequence and is designed for students transferring to a four-year institution and planning careers

in health professional fields such as medicine, dentistry, veterinary science, pharmacy, and optometry as well as those students in engineering technology and architecture. Students majoring in the biological sciences should consult a counselor as to whether this course satisfies the general preparation requirements for the major at the university. Topics include kinematics, dynamics, energy, work, momentum, conservation principles, rotational motion, simple harmonic motion, fluids, and thermodynamics.

4 Units

54 Lecture hours

54 Lab hours

PHY 160 (C-ID PHYS 100S, PHYS 110)

General Physics - II

Prerequisite: PHY 150

Transfers to: UC (credit limit), CSU*

*(*Students will receive credit for one*

physics series: PHY 150 and PHY 160 or

PHY 211, PHY 212, and PHY 213)

This course is the second of a two-semester sequence and is designed for students transferring to a four-year institution with majors in health professional fields such as medicine, dentistry, veterinary science, pharmacy, and optometry as well as those students in engineering technology and architecture. Students majoring in the biological sciences should consult a counselor as to whether this course satisfies the general preparation requirements for the major at the university. Topics include electricity and magnetism, oscillations, waves, optics, and modern physics.

4 Units

54 Lecture hours

54 Lab hours

PHY 211 (C-ID PHYS 200S, PHYS 205)

Physics for Scientists and Engineers - I

Prerequisite: MATH 190 or MATH

190H

Advisory: ENGL 035 or ENLA 100 or

appropriate placement; READ 043 or

appropriate placement

Transfers to: UC (credit limit), CSU*

*(*Students will receive credit for one*

physics series: PHY 150 and PHY 160 or

PHY 211, PHY 212, and PHY 213)

This course is the first of a three-semester sequence and is designed for students transferring to a four-year institution with majors in the sciences and engineering. Topics covered are kinematics, dynamics, energy, work, momentum, and conservation principles.

4 Units

54 Lecture hours

54 Lab hours

PHY 212 (C-ID PHYS 200S, PHYS 215)

Physics for Scientists and Engineers - II

Prerequisite: PHY 211 and MATH 191

Advisory: ENGL 035 or ENLA 100 or

ANIMATION

Division of Arts & Cultural Programs

ANIM 101

Introduction to Digital 3-D Animation

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement

Transfers to: CSU

This course is an introduction to the production pipeline used in games, film and TV. Students will be introduced to the concepts of digital sculpting, lighting, texturing, rendering, rigging, and animating 3-D objects. This course is beneficial for all students in courses related to graphic arts (multimedia, illustration, web and game design, and film production) and industrial design (architectural, automotive, furniture, clothing, and product design).

4 Units

54 Lecture hours

54 Lab hours

ANIM 105

Principles of 3-D Digital Animation

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement; ART 130; ART 230

Transfers to: CSU

This course introduces students to the basic principles of 3-D digital animation. The topics covered in this course are the starting point for any student interested in becoming a digital animator. Through the use of solid drawing and 3-D software such as Maya, students will learn to master fundamentals like squash and stretch, timing, weight, drag, and follow through. This course provides students with the opportunity to build and refine the basic skill set necessary to be a digital animator.

4 Units

54 Lecture hours

54 Lab hours

ANIM 110

Digital Character Animation

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement; ANIM 105

Transfers to: UC, CSU

This course will provide students with an opportunity to further develop their skills in the art of creating three-dimensional digital character animation. Students will learn how to create short animation sequences and loops using digital characters. This course is appropriate and beneficial for all students in courses related to graphic arts (such as those that focus on multimedia,

internet web design, game design, and broadcast media production) and industrial design (including architecture, automotive, furniture, clothing, and product design). Students will be introduced to the use of storyboards and relevant concepts related to body mechanics, acting for animators, pose-to-pose and straight ahead animation, control rigging, and animating mechanical subject matter.

4 units

54 Lecture hours

54 Lab hours

ANIM 120

Lighting and Rendering

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement; ANIM 101

Transfers to: CSU

This is an introductory course for all students interested in learning about lighting, rendering, and texturing for 3-D animation and games. Students focus on creating lighting scenarios and texture editing systems to generate and render surface details on a variety of 3-D objects for film, TV, and games. The class is beneficial to all students interested in career fields using computer graphics. The course is recommended for all animation, art, and architecture transfer students.

4 Units

54 Lecture hours

54 Lab hours

ANIM 130

Modeling for Games

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement; ANIM 101

Transfers to: CSU

This course is an introduction to the basic principles used in 3-D modeling, UVW unwrapping, and texturing for games. The course is intended for beginning 3-D students and covers the tools and techniques used in the creation of 3-D game assets. This course is beneficial for all students in courses related to graphic arts (multimedia, illustration, web and game design, and film production) and industrial design (architectural, automotive, furniture, clothing, and product design).

4 Units

54 Lecture hours

54 Lab hours

ANIM 133

Character Design

Prerequisite: ART 260

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement; ART 170

Transfers to: UC, CSU

This class is intended to teach the fundamentals of character design. Students learn the basics in character

development by revising and polishing innovative designs of visually intriguing characters. The course helps students master and use gesture, construction and anatomy in their designs. Students learn to use digital tools to sketch, paint and build a visually compelling portfolio of characters.

4 Units

54 Lecture hours

54 Lab hours

ANIM 134

Mech and Vehicle Design

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement; ART 170

Transfers to: UC, CSU

This class is geared towards designing mechs, and vehicles of all types for the entertainment industry. Centered on digital drawing and rendering using Photoshop, students create and present finished portfolio pages. The course takes students through a clear and efficient design process emphasizing storytelling, gesture, shape, and color.

4 Units

54 Lecture hours

54 Lab hours

ANIM 135

Environment Design

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement; ANIM 101

Transfers to: UC, CSU

This class introduces students to the artistic and technical requirements needed to work in the entertainment industry as environment artists. Through class projects, students learn the latest techniques in the construction of game levels using Maya and Unity. In addition to level design and the practical aspects of modeling and lighting, an emphasis is placed on the artistic merit of the student's work through value, color, design and composition.

4 Units

54 Lecture hours

54 Lab hours

ANIM 140

Entertainment Art Portfolio

Prerequisite: ANIM 101; ANIM 105

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement

Transfers to: CSU

This course will prepare digital artists to talk about and present their artwork in a professional manner. Students will select an area of concentration within entertainment art and prepare a portfolio project using programs such as Photoshop CC, Premier CC, ZBrush, Maya, and the Unity game engine. This course is an excellent opportunity for students interested in developing and

presenting a body of work that will help them take the next step in their professional career.

4 Units

54 Lecture hours

54 Lab hours

ANTHROPOLOGY

Division of Behavioral & Social Sciences

ANTH 101 (C-ID ANTH 110)

Introduction to Physical Anthropology

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement

Transfers to: UC (credit limit), CSU (*Students will receive credit for only one of the following courses: ANTH 101 or ANTH 101H)*

In this course, people are investigated from the perspective of evolutionary theory. Students will learn about the process of natural selection and related issues including patterns of inheritance. Also included will be an examination of the closest living relatives to humans, primates, with an emphasis on behavior and ape societies. An extensive survey of human ancestors will trace the origins of various life forms and recount how ape-like creatures evolved into modern humans. Students will also discover how natural selection can be used as a tool to understand patterns of human variation. This course is designed for anthropology majors, those with an interest in anthropology, or anyone with a desire to further their understanding of humans from an evolutionary perspective.

3 Units

54 Lecture hours

ANTH 101H (C-ID ANTH 110)

Introduction to Physical Anthropology Honors

Prerequisite: ENGL 101

Advisory: READ 043 or appropriate placement

Transfers to: UC (credit limit), CSU (*Students will receive credit for only one of the following courses: ANTH 101 or ANTH 101H)*

In this course, people are investigated from the perspective of evolutionary theory. Students will learn about the process of natural selection and related issues including patterns of inheritance. Also included will be an examination of the closest living relatives to humans, primates, with an emphasis on behavior and ape societies. An extensive survey of human ancestors will trace the origins of various life forms and recount how ape-like creatures evolved into modern humans. Students will also discover how natural selection can be

used as a tool to understand patterns of human variation. This course is designed for anthropology majors, those with an interest in anthropology, or anyone with a desire to further their understanding of humans from an evolutionary perspective.

3 Units

54 Lecture hours

ANTH 101L (C-ID ANTH 115L)

Physical Anthropology Lab

Prerequisite/Corequisite: ANTH 101 or ANTH 101H

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement

Transfers to: UC, CSU

This laboratory course, designed to complement the lecture course, is for students interested in expanding their knowledge of physical anthropology. Students will be introduced to the methods, techniques, and procedures used in physical anthropology research, gaining practical experience by participating in laboratory activities using the scientific method. Laboratory exercises will include an assessment of the forces that affect evolutionary change, the observation of primate behavior, the assessment of human variation, and the identification and classification of the skeletal features of humans, non-human primates, and human ancestors. Also included will be an exploration of Mendelian, molecular, and population genetics.

1 Unit

54 Lab hours

ANTH 102 (C-ID ANTH 120)

Introduction to Cultural Anthropology

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement

Transfers to: UC (credit limit), CSU (*Students will receive credit for only one of the following courses: ANTH 102 or ANTH 102H)*

The emphasis of this general education course is the investigation of human culture. By learning about the diversity of cultural practices around the world, students will be able to evaluate their identities within their own societies. In addition to discovering the theories and methods important to cultural anthropology, the course includes an extensive examination of cross-cultural diversity. Students learn about how people in different cultures obtain their food, exchange goods, organize themselves in groups, engage in politics, raise children, and worship supernatural beings. Also addressed is the issue of how cultural anthropology can contribute to addressing important problems in the modern world. The course is designed for anthropology majors, those with an interest

in anthropology, or anyone with a desire to further their understanding of human culture.

3 Units

54 Lecture hours

ANTH 102H (C-ID ANTH 120)

Introduction to Cultural Anthropology Honors

Prerequisite: ENGL 101

Advisory: READ 043 or appropriate placement

Transfers to: UC (credit limit), CSU (*Students will receive credit for only one of the following courses: ANTH 102 or ANTH 102H)*

The emphasis of this general education course is the investigation of human culture. By learning about the diversity of cultural practices around the world, students will be able to evaluate their identities within their own societies. In addition to discovering the theories and methods important to cultural anthropology, the course will include an extensive examination of cross-cultural diversity. Students will learn about how people in different cultures obtain their food, exchange goods, organize themselves in groups, engage in politics, raise children, and worship supernatural beings. Also addressed will be the issue of how cultural anthropology can contribute to addressing problems important in the modern world. This course is designed for anthropology majors, those with an interest in anthropology, or anyone with a desire to further their understanding of human culture. This course is intended for those who meet Honors Program requirements.

3 Units

54 Lecture hours

ANTH 103 (C-ID ANTH 150)

Introduction to Archaeology

Advisory: ENGL 035 or ENLA 100 or appropriate placement; READ 043 or appropriate placement

Transfers to: UC, CSU

This course is a survey of human world history and prehistory as identified by the archaeological record. Emphasis is placed on major changes in human technological, economic, and social development over the course of two million years of the human material record, including topics such as the history of archaeology, research ethics, data types, theory and methodology, dating techniques, survey and site excavation methods, analysis and interpretations, and reasons to preserve the past. Case studies from the excavation of major archaeological sites around the world are examined and discussed as examples. This course is for students who are interested in ancient history or the field of